LCUG Service Quality Measurements (SQMs)

ASSUMPTION: OSS FULLY IMPLEMENTED BY ILEC

GENERAL (GE)

Function	Measurement Objective	Proposed Service Quality Measurement
Systems Availability	Measures the availability of operations support systems and associated interfaces (for pre-ordering, ordering and provisioning, maintenance)	≤ 0.1% unplanned downtime per month, reported for each interface: Pre-ordering Inquiry Interface Ordering Interface Maintenance Interface **GE-1** **(# Hours Interface and/or System Not Available as Scheduled) ÷ (Total # Hours Scheduled Availability) x 100** **GE-2** **Mean # of Hours Available**
Center Responsiveness	Measures the time for the ILEC representative to answer business office calls in provisioning and trouble report centers.	≥ 95% within 20 seconds 100% within 30 seconds **GE-3** **# Calls Answered Within Specified Timeframe x100** **Total # Calls from CLEC to Center** **GE-4** **Mean Time to Answer Calls w/o IVR; if IVR - Mean Time to Answer Calls after the end of IVR**

LCUG Service Quality Measurements (SQMs)

ASSUMPTION: OSS FULLY IMPLEMENTED BY ILEC

BILLING (BI)

Function	Measurement Objective	Proposed Service Quality Measurement
Timeliness of Billing Records Delivered	Measures the timeliness of billing records and wholesale bills (usage, CSRs, service orders, time & materials, adjustments) delivered to CLEC	99.9% billing records received in ≤ 24 hours 100% billing records received in ≤ 48 hours ≥ 99.95% wholesale bills received within 10 calendar days of bill date **BI-1** **# Billing Records Delivered on time x 100** **Total # of Billing Records Received** **BI-2** **Mean Time to Provide Billing Records** **BI-3** **Mean Time to Deliver Wholesale Bills**
Accuracy	Measures the percentage ***and mean time*** of billing records delivered to CLEC in the agreed-upon format and with the complete agreed-upon content (includes time and material and other non-recurring charges)	≥ 98% wholesale bill financially accurate ≥ 99.99% of all records transmitted **BI-4** **(# of Accurate and Complete Formatted Mechanized Bills , Total # Mechanized Bills Received) x 100** **BI-5** **# of Billing Records Transmitted Correctly x 100** **Total # of Billing Records Received**

LCUG Service Quality Measurements (SQMs)

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OPERATOR SERVICES AND DIRECTORY ASSISTANCE (DA)

Function	Measurement Objective	Proposed Service Quality Measurement
Average Speed to Answer	Measures the percent and mean time a call is answered by an OS or DA operator in a predefined timeframe. Includes all time from initiation of ringing until the customer's call is answered.	For live agent, 90% of calls answered in 10 seconds. For Voice Response Unit service, 100% within 2 seconds. **DA-1** # Calls Answered Within "x" seconds x 100 Total DA Calls *where "x" equals 2or 10 seconds* **DA-2** *DA Mean Time To Answer* **OS-1** # Calls Answered Within "x" seconds x 100 Total OS Calls where "x" equals 2 or 10 seconds **OS-2** *OS Mean Time To Answer*

LCUG Service Quality Measurements (SQMs)

ASSUMPTION: OSS FULLY IMPLEMENTED BY ILEC

NETWORK PERFORMANCE (NP)

Function	Measurement Objective	Proposed Service Quality Measurement
Network Performance Parity	Compares ILEC performance distribution for its own customers to ILEC performance distribution for CLEC customers. Measures the deviation from supplier service performance distribution for each metric specified.	Deviation ≤ 0.10% from supplier service performance distribution: Transmission quality: • Subscriber Loop Loss • Signal to Noise Ratio • Idle Channel Circuit Noise • Loops-Circuit Balance • Circuit Notched Noise • Attenuation Distortion Speed of Connection: • Dial Tone Delay • Post Dial Delay • Call Completion/ Delivery Rate Reliability Requirements: (For TSR Only) • Network incidents affecting > 5000 blocked calls • Network incidents > 100,000 blocked calls Statistical comparison based on the Mean ILEC Customer Experience and standard deviation from this mean, the Mean CLEC Customer Experience and standard deviation from this mean, and the number of observations used to determine these means. **NP-1** **(Mean ILEC customer experience - Mean CLEC customer experience) ÷ Mean ILEC customer experience x 100** ***Deviation between ILEC performance for ILEC and CLEC customers must be less than 0.10%.***

LCUG Service Quality Measurements (SQMs)

ASSUMPTION: OSS FULLY IMPLEMENTED BY ILEC

INTERCONNECT / UNBUNDLED ELEMENTS AND COMBOS (IUE)

Function	Measurement Objective	Proposed Service Quality Measurement
Availability of Network Elements	Measures the availability of network elements (e.g. signaling link transport, SCPs/ Databases, & loop combinations)	Loop Combo availability 100% Signaling Link Transport Unavailability: • A-Link: ≤ 1 min per year • D-Link: ≤ 1 sec per year • SCPs/Databases: ≤ 15 min per year • SCPs/Databases correctly updated: ≥ 99% in ≤ 24 hrs **IUE-1** **# minutes Loop unavailable x 100** **Total # minutes** **IUE -2** **# minutes A-link available during "*x*" years** **"*x*" years** **IUE-3** **# seconds D-link unavailable during "*x*" year** **"*x*" year** **Where x ≤ or ≥ year. After year, monthly reporting should be for a rolling year.** **IUE-4** **# Database Records Correctly Updated x 100** **Total # Update Requests Received by ILEC** **IUE-5** **(# Database Records Updated within 24 hours of Update Request Receipt) , (Total # Database Update Requests Received) x 100**

LCUG Service Quality Measurements (SQMs)

ASSUMPTION: OSS FULLY IMPLEMENTED BY ILEC

INTERCONNECT / UNBUNDLED ELEMENTS AND COMBOS (IUE) (con'd)

Function	Measurement Objective	Proposed Service Quality Measurement
Performance of Network Elements	Measures the performance of network elements (e.g. LIDB, routing to CLEC OS/DA platforms, 800, AIN)	**Example:** •LIDB reply rate to all query attempts ≥ 99.95% •LIDB query time-out ≤ 0.05% •Unexpected data values in replies for all LIDB queries ≤ 1% •% of LIDB queries return a missing customer record = 0% •Group troubles in all LIDB queries ≤ 0.5% **Delivery to OS platform:** Mean Post Dial Delay for "0" calls from LSO to CLEC OS platform ≤ 2 seconds PDD for "0+" calls with 6 digit analysis from LSO to CLEC OS platform: 95% ≤ 2.0 sec; Mean ≤ 1.75 sec Percent of call attempts to CLEC OS Platform that were blocked ≤ 0.1% **IUE-6** **(# LIDB| or 800 or AIN or *n* |Query Replies Received by CLEC) + (Total # LIDB| or 800 or AIN or *n* | Queries Received by ILEC) x 100** **IUE-7** **(# LIDB| or 800 or AIN or *n* | time-out responses received by CLEC) + (Total # LIDB | or 800 or AIN or *n* |Queries Received by ILEC) x 100** **IUE-8** **(# LIDB | or 800 or AIN or *n* |Query Replies with unexpected data values received by CLEC) + (Total # LIDB Queries Received by ILEC) x 100**

LCUG Service Quality Measurements (SQMs)

ASSUMPTION: OSS FULLY IMPLEMENTED BY ILEC

INTERCONNECT / UNBUNDLED ELEMENTS AND COMBOS (IUE) (con'd)

Function	Measurement Objective	Proposed Service Quality Measurement
		IUE-9 **(# LIDB[or 800 or AIN or *n*] Query Replies missing customer record received by CLEC) , (Total # LIDB [or 800 or AIN or *n*]Queries received by ILEC) x 100** **IUE-10** **(Cumulative Total # Post Dial Delay Seconds experienced on "0" calls from LSO to CLEC OS platform) + (Total # "0" calls from LSO to CLEC OS platform)** **IUE-11** **(Cumulative Total # Post Dial Delay Seconds experienced on "0+" calls with 6 digit analysis from LSO to CLEC OS platform) + (Total # "0+" calls with 6 digit analysis from LSO to CLEC OS platform)** **IUE-12** **# of "0+" calls with 6 digit analysis from LSO to CLEC OS platform that have Post Dial Delay $\leq$ 2 seconds + (Total # "0+" calls with 6 digit analysis from LSO to CLEC OS platform)** **IUE-13** $\frac{\text{\# Blocked Call Attempts to CLEC OS Platform}}{\text{Total \# Call Attempts to CLEC OS Platform}} \times 100$

LCUG Service Quality Measurements (SQMs)

ASSUMPTION: OSS FULLY IMPLEMENTED BY ILEC

FORMULAS
QUICK REFERENCE GUIDE

Metric No.	Formula
PRE-ORDER	
PO-1	# of Responses Received on Time / Total # of Queries Sent x 100
PO-2	Mean Cycle Time
ORDERING AND PROVISIONING	
OP-1	# of Orders Completed on Time / Total # of Order Completed x 100
OP-2	Mean Completion Interval
OP-3	# of Orders Completed w/o Error / Total # of Orders Sent x 100
OP-4	[# of *C*-FOCs Returned in ≤ 4 hours ÷ (Total # of Orders Sent - Syntax Rejects Returned)] x 100
OP-5	Mean Time to Return FOC
OP-6	[# of ***D-FOCs*** Returned in ÷ (Total # of Orders Sent - Rejects Returned)] x 100

LCUG Service Quality Measurements (SQMs)

ASSUMPTION: OSS FULLY IMPLEMENTED BY ILEC

OP-7 Mean Time to Return ***D-FOCs***

OP-8 (# of ***Syntax*** Rejects Returned in ≤ 15 seconds) ÷
(Total # of ***Syntax*** Rejects Returned) x 100

OP-9 Mean Time to Return Rejects

OP-10 ***Jeopardies Returned within 70% of allotted order time ÷ Total number Jeopardies Returned***

OP-11 (# of Completions Returned in ≤ 30 minutes) ÷
(Total # Completed Orders) x 100

OP-12 Mean Time to Return Completion

OP-13 Jeopardies
Total C-FOCs - Total Rejects

OP-14 (# of Orders Held for ≥ x days) ÷
(Total # of Orders Sent to ILEC
in past x days) x 100

OP-15 Mean Time of Orders Held Prior
to Completion

MAINTENANCE / REPAIR

MR-1 (# of Troubles Restored within x hours ÷
Total # Troubles) x 100
where "x" = 2,3,4,8,16 or 24 "running clock" hours

LCUG Service Quality Measurements (SQMs)

ASSUMPTION: OSS FULLY IMPLEMENTED BY ILEC

MR-2	Total # of Trouble Minutes / Total # of Trouble Reports	
MR-3	# of telephone lines reporting ≥ 2 troubles in the current report months ÷ Total # of troubles in current report months	
MR-4	# of Initial & Repeated Trouble Reports per exchange per month / Total # of Lines per exchange	x 100
MR-5	# Customer Trouble Appointments Met / Total # Customer Trouble Appointments	x 100
GENERAL		
GE-1	(# Hours Interface and/or System Not Available as Scheduled) ÷ (Total # Hours Scheduled Availability)	x 100
GE-2	Mean # of Hours Available	
GE-3	# Calls Answered within Specified Timeframe / Total # Calls from CLEC to Center	x 100
GE-4	Mean Time to Answer Calls w/o IVR; If IVR, Mean Time to Answer Calls after end of IVR	
BILLING		
BI-1	# Billing Records Delivered on Time / Total # of Billing Records Received	x 100

LCUG Service Quality Measurements (SQMs)

ASSUMPTION: OSS FULLY IMPLEMENTED BY ILEC

BI-2	Mean Time to Provide Billing Records	
BI-3	Mean Time to Deliver Wholesale Bills	
BI-4	(# of Accurate & Complete Formatted Mechanized Bills ÷ Total # Mechanized Bills Received)	x 100
BI-5	# of Billing Records Transmitted Correctly / Total # of Billing Records Received	x 100

DIRECTORY ASSISTANCE AND OPERATOR SERVICES

DA-1	# Calls Answered within "x" seconds / Total DA Calls where "x" equals 2 or 10 seconds	x 100
DA-2	DA Mean Time to Answer	
OS-1	# Calls Answered within "x" seconds / Total OS Calls where "x" equals 2 or 10 seconds	x 100
OS-2	OS Mean Time to Answer	

NETWORK PERFORMANCE

NP-1	(Mean ILEC customer experience - Mean CLEC customer experience) ÷ Mean ILEC Customer Experience	x 100

LCUG Service Quality Measurements (SQMs)

ASSUMPTION: OSS FULLY IMPLEMENTED BY ILEC

INTERCONNECTION / UNBUNDLED ELEMENTS AND COMBOS

IUE-1 # Minutes Loop available / Total # Minutes x 100

IUE-2 # Minutes A-link unavailable during x years / x years
(where "x" < or > 1 year after first year, monthly reporting should be for a rolling year.

IUE-3 # Seconds D-link unavailable during x years / x years

IUE-4 # Database Records Correctly Updated / Total # Update Requests Received by ILEC x 100

IUE-5 (# Database Records Updated within 24 hrs. of Update Request Received) ÷ (Total # Database Update Requests Received)

IUE-6 (# LIDB [or 800 or AIN or n] Query Replies Received by CLEC) ÷ (Total # LIDB [or 800 or AIN or n] Queries Received by ILEC x 100

IUE-7 (# LIDB [or 800 or AIN or n] Time-Out Responses Received by CLEC) ÷ (Total # LIDB [or 800 or AIN or n] Queries Received by ILEC) x 100

IUE-8 (# LIDB [or 800 or AIN or n] Query Replies with Unexpected Data Values Received by CLEC) ÷ (Total # LIDB [or 800 or AIN or n] Queries Received by ILEC) x 100

LCUG Service Quality Measurements (SQMs)

ASSUMPTION: OSS FULLY IMPLEMENTED BY ILEC

IUE-9	(# LIDB [or 800 or AIN or n] Query Replies Missing Customer Record Received by CLEC) ÷ (Total # LIDB [or 800 or AIN or n] Queries Received by ILEC)	x 100
IUE-10	(Cumulative Total # Post Dial Delay Seconds experienced on "0" calls from LSO to CLEC OS platform) ÷ (Total # "0" calls from LSO to CLEC OS platform)	
IUE-11	(Cumulative Total # Post Dial Delay Seconds experienced on "0+" calls with 6-digit analysis from LSO to CLEC OS platform) ÷(Total # "0+" calls with 6-digit analysis from LSO to CLEC OS platform)	
IUE-12	(# of "0+" calls with 6-digit analysis from LSO to CLEC OS platform that have Post Dial Delay ≤ 2 seconds) ÷ (Total # "0+" calls with 6-digit analysis from LSO to CLEC OS platform)	
IUE-13	# Blocked Call Attempts to CLEC OS Platform / Total # Call Attempts to CLEC OS Platform	x 100